

WHAT IS CLAIMED IS:

1. A method for monitoring and controlling quality of a paper web being manufactured in a paper machine, comprising:

5 conveying the paper web from an exit of the paper machine and subjecting the paper web to a treatment process;

 imaging the paper web with a thermal camera on a continual basis in order to detect defects in the paper web; and

 adjusting at least one of the manufacturing process and the treatment process for
10 the paper web based on the detected defects.

2. The method of claim 1, wherein the step of subjecting the paper web to a treatment process comprises coating the paper web with a coating material.

3. The method of claim 1, wherein the step of subjecting the paper web to a treatment process comprises calendering the paper web.

15 4. The method of claim 2, wherein the paper web is imaged prior to the treatment process.

 5. The method of claim 2, wherein the paper web is imaged after the treatment process.

20 6. The method of claim 2, wherein the paper web is imaged both prior to and after the treatment process.

 7. The method of claim 3, wherein the paper web is imaged prior to the treatment process.

 8. The method of claim 3, wherein the paper web is imaged after the treatment process.

25 9. The method of claim 3, wherein the paper web is imaged both prior to and after the treatment process.

10. The method of claim 1, wherein the thermal camera images the paper web substantially continuously.

11. The method of claim 10, wherein a video camera is used to image the paper web substantially continuously.

5 12. The method of claim 1, wherein the thermal camera images the paper web at periodic intervals of time.

13. The method of claim 12, wherein still images of the paper web are taken at periodic intervals.

10 14. The method of claim 1, wherein images of the paper web taken by the thermal camera are used in order to detect nonuniformities in a characteristic of the paper web.

15. The method of claim 14, wherein the images are used to detect nonuniformities in wetness of the paper web.

15 16. The method of claim 14, wherein the images are taken after the paper web is coated with a coating layer, and the images are used to detect nonuniformities in the coating layer.

17. The method of claim 1, wherein the imaging is performed within the infrared light spectrum of 3 to 12 micrometers in wavelength.

20 18. The method of claim 1, wherein the imaging is performed within the infrared light spectrum of 3 to 5 micrometers in wavelength.

19. The method of claim 1, wherein the imaging is performed within the infrared light spectrum of 8 to 12 micrometers in wavelength.

25 20. The method of claim 1, wherein the web is conveyed to a coating unit in which a coating layer is applied to the paper web, and the coated paper web is then conveyed to a calendering unit in which the web is calendered, and wherein the coated

paper web is imaged prior to entering the calendering unit in order to detect irregularities in the coating layer.

21. The method of claim 1, wherein images of the paper web taken with the thermal camera are displayed on a monitor to enable continuous monitoring during manufacturing and treatment of the paper web.

22. The method of claim 1, wherein an image of the paper web taken with the thermal camera is stored in a memory for further analysis.